

# Typography-based on-line help for T<sub>E</sub>X\*

GYÖNGYI BUJDOSÓ

Faculty of Computer Science

University of Debrecen

H-4010 Debrecen, P.O.B. 12, Hungary

bujdoso (at) inf dot unideb dot hu

## Abstract

People using T<sub>E</sub>X often search for on-line information about T<sub>E</sub>X. Although many on-line systems show the syntax of many commands and environments, few or none contain typographical recommendations for them. For example, we can find the command `\underline` and its syntax but there is no hint that underlining texts is not recommended in documents even if the text is a section title.

Our project was to begin developing a typography-based T<sub>E</sub>X help system. This presentation deals with the main features of the system, how to integrate important typographical recommendations, source code of T<sub>E</sub>X commands and environments, designed forms and layouts, and the most problematic grammatical rules.

## Introduction

When people use T<sub>E</sub>X they sometimes need help with command syntaxes. There are some very good web based systems about how to use T<sub>E</sub>X (e.g., [5, 7]) which assist people in how to use a command or environment, how to set the indentation of a paragraph, how to italicize a word or how to modify the labels of an enumeration. It is quite useful, saves a lot of time, but is it enough? Is it possible to find information on the web on how big the indentation should be, which words should be in italics or bold, what types of labels should be applied?

It is safe to say that it is hard to find information on typographical recommendations on the web and most people do not acquire books on typography.

An idea follows from the foregoing: an on-line system which contains more than the technical details for typesetting should be offered to those interested.

## Basic considerations

The curriculum in many courses on computer science for beginners (including primary and secondary schools) contains word processing. In general, this means teaching techniques on how to use menus, dialog boxes and icons. The methodology is similar when teaching T<sub>E</sub>X (for example, for students in mathematical specialties). This method of teaching word process-

ing results in students being able to use some functions of a word processor or T<sub>E</sub>X, but they do not care about the layout of documents. Usually they use the default settings of one (and only one) style file, and bold letters for emphasizing in-line texts, sometimes they use headings or centering—and that is all. The layout of the documents is not harmonious and not aesthetic, sometimes quite structureless.

The first idea was to give information to students on typography when teaching techniques of word processing. This method was not successful enough, because students thought that these rules and recommendations were without importance. Shifting the focus from teaching techniques to teaching typography [2] was more successful, because information describing a form was about typography first, then followed by technical issues. The students were more motivated and attended to the layout of their documents.

Currently many students at universities do not have time to attend courses on word processing, and have no money for buying books, so they mostly use the web for getting information in this field (just as with almost everything). Nevertheless, on-line help for word processing generally contains only technical information. How to motivate students and, for that matter, anyone to give more consideration to layout?

A solution could be an on-line help system based on typography [3].

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## Versions, concepts and problems

The *first version* of our “on-line help” was more of a textbook on the web than on-line help. It was a static system of web pages on certain parts of the curriculum, namely a set of

- sample pages
  - containing the description of some technique,
  - showing a recommended layout of the form in question, and which
  - has to be reproduced.

The system had two main problems: The most important problem was that the sample pages did not contain the entire source code of the special forms, only the syntax and the detailed descriptions of the commands (because students had to reproduce the pages). There was a time when this type of learning was motivating for our students, but the world has changed; nowadays people prefer ready-to-use things. The second problem was that it was hard to find a command or anything else in the curriculum. It was time to change the concept.

The *second version* was a system of web pages. These pages contained the same topics of the first version, plus

- the source code of many forms.

A new structure was applied: small pages with less information on each and with many links to the related topics and forms.

Some problems arose when more topics and text had to be inserted into the system. The descriptions had to be sliced and organized in another way.

The result: hundreds of small web pages (containing much redundant information), hundreds of pictures and thousands of links. After a while, it was impossible to handle and update the system. The system collapsed before being published! Thus the concept had to be changed.

## New techniques

Having worked with systems which were not efficient enough, we planned to develop a free system which could be a help to teachers (with or without programming skills) in creating and organizing thousands of files of their curricula. This system was designed to be different from the Learning Content Management Sys-

tems (lcms) which are available free of charge. (A free lcms needs a system administrator for installing, maintaining and updating it.) This project has been canceled due to various reasons.

The frame that we can use can be a free lcms. Among others, Moodle [6] seems to be the best frame for our purposes, as its language support is quite good and it has several agreeable features and other functions.

Moodle—like lcms frames in general—has many advantages such as tests, logs, chats, possible tutoring, white boards, searching, etc. Nevertheless it has some disadvantages, too. One of its best features, i.e., its uniformity (that is, each window dialog box, etc. has the same layout, as determined by the chosen skin) is considered to be quite disadvantageous from the current perspective. Another problem is that it lacks some functions that could make the system easier to deal with. It is too rigid and hard to personalize.

## Formats

One of the biggest problems with using on-line systems is that people need hardware and web access to get any information. For people who work always on computers, of course this does not cause any problem because they have both. For other people, who have neither laptops in their bags nor free (nor unlimited) Internet access, getting on-line information can be problematic.

A more convenient way would be if the system can be downloaded and installed if needed (in an easy way) onto a local computer.

Also, visualization is a common learning technique. The system should support this method of study by offering a printable version of the needed part(s) of the curriculum to the users. Such pieces of information should be at anyone’s disposal.

## Accessibility

Accessibility is an important question in typesetting texts, too. Many disabled people use T<sub>E</sub>X, so we must help them, one major group being people with visual impairment. Initiatives can be read, e.g., at [8, 9, 11], or in Hungarian at [1]. Many useful recommendations on interactive design can also be read, e.g., at [4] or [10]. Most of them should be adapted to the new on-line help system.

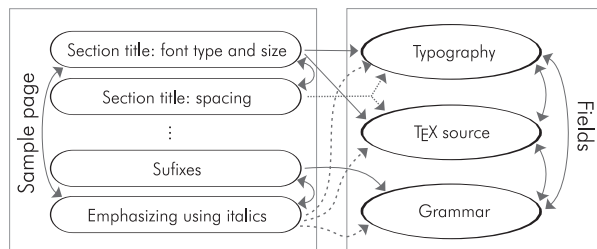


Figure 1: Fields and relations

The minimal requirements for our on-line help system are the following:

- It must contain functions for enlarging text, menu items, icons, pictures, etc. These would help people with visual as well as motor impairments.
- Alternative text should be assigned to each picture.
- It should offer possibilities to users for setting colors and contrast applied by the system to the users' desire. This feature is very important, for example, for color- and night-blind people.

### Augmented content

Some new topics and many new (cross-)references (see Figure 1) have to be built in. The following new fields are planned to be embedded into the on-line help:

- typographical recommendations,
- commonly (not) used rules of grammar,
- a class/style file (or a simple macro file) maker to  $\LaTeX$  and plain  $\TeX$ .

Also, some new features have to be added and many relations should be highlighted:

- links from special forms of a displayed page to typographical descriptions and samples that are concerned to the forms (see Figure 2),
- links from special forms to their source code,
- links to grammatical rules of problematic words, suffixes, etc.,
- supporting different languages,
- demonstration of designed layouts,
- representative samples on good and bad forms and usage of grammatical rules.

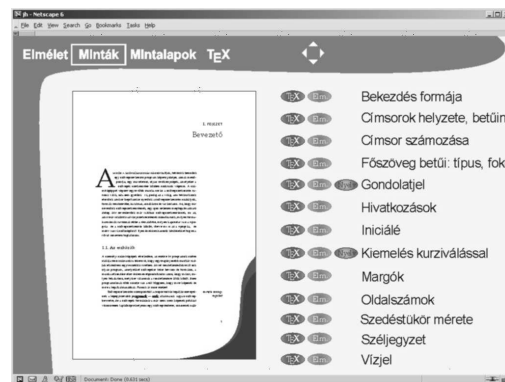


Figure 2: Sample page and relations

### About the project

The project consists of two main parts: developing the content, building up the frame and aligning it to the needs of the content and users.

The content on  $\TeX$  is under development; many of the necessary topics and parts are being gathered. The contained descriptions have to be organized into self-contained pieces by carefully abolishing the redundancies, meaning that a system of learning objects has to be developed.

There are many texts on typography, but we need to enlist a typographer who would write more, or at least referee them.

The most problematic part is building up and aligning the frame. It needs programmers who have to be supported. Trying to find financial support is in progress.

### Conclusions

Our main goal is to develop a system that can motivate people to create good layouts in their work. Developing an easy-to-use on-line help system on word processing combined with typographical issues is a difficult task. It requires a lot of work from several people on various fields: instruction, typography, human-computer interaction, system programming.

In case we succeed in developing this on-line system, it will be a good frame to adapt the content to other languages, and offer a place on the web where people can get information not only about  $\TeX$ , but typesetting texts and designing aesthetic layouts.

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